Water Purification Pilot Case – Uganda

WRC

This document is property of the Water Reference Center Foundation. It is strictly forbidden to copy this document or to cede it to a third party without prior written permission.

Overview

Details

Document name	Water Reference Center – Water Purification Pilot Case – Uganda
Author	Klaas Proesmans
Owner	Water Reference Center
Date of issue	16/11/2012
Version - status	1.2 – Draft
File name	PID MMS Uganda.doc

Content

This document contains following titles:

1 Management summary 3
2 Introduction and background of the WRC 3
3 Water Purification Pilot Case – Project Plan 6
3.1 Context 6
3.2 Involved parties 6
3.3 Pilot Case history 7
3.4 Project Scope 7
3.5 Project Management Approach 8
3.6 Pre-Pilot Case results 8
4 Action Plan plus grid of responsibilities 9
5 Pilot case 9
6 Protocol of Testing/effectiveness of side effects ..... 11~~10~~
7 Communications ..... 11~~10~~
8 Output: ownership and rolling out ..... 12~~11~~
9 Legal support: terms of engagement ..... 12~~11~~

Document History

Version	Date	Action	By
1.0	16/11/2012	First draft of the document	Klaas
1.1	24/11/2012	Revision first draft	Koen
1.2	25/11/2012	Revision after talk Klaas-Koen	Koen
2			
3			
4			
5			

This document is property of the Water Reference Center Foundation. It is strictly forbidden to copy this document or to cede it to a third party without prior written permission.

This document is property of the Water Reference Center Foundation. It is strictly forbidden to copy this document or to cede it to a third party without prior written permission.

1 Management summary

The Water Reference Center (WRC) is a partnership between their Founding Members who share a common interest and wish to realize their Dream of waking up in a world without any water related problems, by focusing on the following areas:

"To collect and analyse existing practices, identify needs and share the acquired knowledge in production, management and distribution of water related technology and services."

"To coordinate and facilitate technology research and developments in water related areas, i.e. evaluating existing technologies and conducting new research and development on water related issues."

"To coordinate and implement projects related to the production and purifying of water, access to water, storage of water, and/or water management."

"To promote awareness on water through information, training and education."

"To mobilize relevant resources, such as financial funding and forming alliances to enhance the achievement of the objectives."

2 Introduction and background of the WRC

Introduction

- The Water Reference Center is a Seychelles based foundation, with the Act of Incorporation signed in Geneva during the General Assembly of the IFRC in November 2011.

Background

- After realising that innovative water solutions were evolving amongst our common network, the Founding Members chose to regroup in a Foundation to facilitate the rolling out of these solutions.

Founding Members

- Red Cross Society of Seychelles
- Kenya Red Cross Society
- University of Seychelles
- Klaas Proesmans GCV
- Chetty Foundation
- Tendris Solutions B.V.

- Whereas Seychelles Red Cross and Kenyan Red Cross Societies are voluntary national humanitarian organisations having particular experience and understanding the needs of the most vulnerable, and to advocate on their behalf, national and internationally, including issues relating to water and sanitation;
- Whereas the Seychelles University, Klaas Proesmans GCV and the Chetty Foundation, having a particular expertise and resources available in technical support, humanitarian diplomacy, business network and corporate funding; and
- Whereas Tendris Solutions is the technical backbone of Tendris, developing sustainable energy, water and health related solutions. Tendris initiates progressive and sustainable products and services. One condition supersedes all products; all products have to positively contribute to People, Nature & Environment. By profitably marketing these products, Tendris assures that this condition is met long term, for a better world now and in the future.

Board

- Chairman: Mr. Chrystold Chetty, Chairman of the Finance Commission IFRC (International Federation of Red Crosses and Red Crescents)
- Secretary Mr. Ruud Koornstra, Tendris Solutions BV
- Treasurer Mr. Abbas Gullet, Secretary General, Kenya Red Cross Society

Executive

- CEO: Mr. Klaas Proesmans, former Director Operations, Virgin Airlines

This document is property of the Water Reference Center Foundation. It is strictly forbidden to copy this document or to cede it to a third party without prior written permission.

Endorsement

- NEPARC

NEPARC
NEW PARTNERSHIP FOR AFRICAN RED CROSS & RED CRESCENT SOCIETIES

- UNISDR

ISDR
United Nations
International Strategy for Disaster Reduction

Contact

Chairman: Mr. Chrystold Chetty chrystold@gmail.com

CEO: Mr. Klaas Proesmans klaas@waterreferencecenter.com

Website: www.waterreferencecenter.com

This document is property of the Water Reference Center Foundation. It is strictly forbidden to copy this document or to cede it to a third party without prior written permission.

This document is property of the Water Reference Center Foundation. It is strictly forbidden to copy this document or to cede it to a third party without prior written permission.

3 Water Purification Pilot Case – Project Plan

A unique cooperation combining private sustainable business, research & development and the Red Cross / Red Crescent network. The Water Reference Centre (WRC) focuses on research and development of water production technologies, involving private business, R&D capacity and academic research.

It is from within this unique platform that WRC wants to perform a Due Diligence on ClO2 and NaClO2 and its effects on water purification and possible positive side effects in the fight against malaria.

Sodium chlorite (NaClO2), when combined with acid, generates chlorine dioxide (ClO2), a gas. Chlorine dioxide is used all over the world to clear pathogens from drinking water, in the food industry to clean pathogens from meat, chicken and vegetables, in paper mills and in hospitals. Chlorine dioxide is the only pathogen cleaner that the FDA allows to be used on food products and not washed off (source?).

3.1 Context

Uganda has been chosen as the basis for this Pilot Case for following reasons:

- The high level of expertise within Uganda Red Cross Society (URCS);
- The presence of ongoing projects under URCS. Possibility of melding this Pilot Case into existing projects as to take advantage of present know-how and reducing costs;
- The presence of malaria infested areas;
- The presence of experts in Uganda on purifying water with the said products.

3.2 Involved parties

- Water Reference Center, represented by Klaas Proesmans, CEO
- Uganda Red Cross Society, represented by
  - Mr. Michael Richard Nataka, Secretary General
  - Dr Bildard Baguma, USG Programs & Projects
  - Mrs. Sarah Musisi, Director Health & Care
  - Mr. Grace Kyagaba, PM WatSan
- Mr. Leo Koehof, expert in the field of Sodium Chrlorite and Moringa Olifeira as malaria treatment

3.3 Pilot Case history

- Initial Contact with Mr. Michael Nataka (SG URCS) and Tom Buruku (Chairman URCS)
- Initial talk with Mrs. Sarah Musisi and Mr. Grace Kyagaba on Nov 15th
- Initial talk with Dr Bildard Baguma on Nov 16th:
  - Enquiry for official documentation
  - Define full Pilot Case briefing
- Initial talks with "National Drug Authority" on Nov 16th, Mrs. Hellen Labol in presence of Mr. Grace Kyagaba
- Second talk with "National Drug Authority" and "National Water and Sewerage Cooperation Uganda" represented by Mr. Mugume Deo Samuel, in presence of Mr. Grace Kyagaba on Nov 16th: quotes in 3.6 from Mr. Mugume Deo Samuel

3.4 Project Scope

The purpose of this paper is to elaborate a backbone for a well document pilot case, which serves as to allow the involved parties in making a decision whether this way of water purification needs to be pursued or not.

- First step:
  the necessary enquiries with the local authorities are being conducted to make sure that the products presented by WRC are by no means in contradiction with the ruling legislation, nor do they cause any negative side-effect on the human physical health.
  Output: green light from authorities

- Second step:
  the expected positive side-effects in the fight against malaria will be evaluated by field tests.
  Output:
  1. A well-documented report on any positive or negative side-effect
  2. A professional audio-visual report (documentary style)

- Third step:
  The location where this Pilot Case has been conducted, continues to serve as a 'center of excellence' for the RCRC movement with a holistic approach

This document is property of the Water Reference Center Foundation. It is strictly forbidden to copy this document or to cede it to a third party without prior written permission.

3.5 Project Management Approach

The Project Manager and Project Sponsor, Mr Klaas Proesmans, has the overall authority and responsibility for managing and executing this project according to this Project Plan and its Subsidiary Management Plans. The project team will consist of personnel from the in 1.2 named involved parties. The project manager will work with all resources to perform project planning. All project and subsidiary management plans will be reviewed and approved by the project sponsor. All funding decisions will also be made by the project sponsor. Any delegation of approval authority to the project manager should be done in writing and be signed by the project manager.

The project team will be a matrix wherein team members from each organization continue to report to their organizational management throughout the duration of the project. The project manager is responsible for communicating with the organizational managers on the progress and performance of each project resource.

3.6 Pre-Pilot Case results

1. Quotes from Mr Mugume Deo Samuel, "National Water and Sewerage Cooperation Uganda" on Nov 16th 2012 (see 3.3):

    - Sodium Chlorite/ chlorine dioxide is currently being used by the Uganda Government as a water purifier in the area of …;
    - There have been no side effects on the human body;
    - The effectiveness of Sodium Chlorite/chlorine dioxide has led to the extension of the purifier to other areas in Uganda;
    - WRC is advised to test their products in the research lab recommended by "National Water and Sewage Cooperation Uganda" to verify whether they meet the standards.

2. World Health Organisation, papers:

    WHO site with all references to **Sodium Chlorite**
    http://search.who.int/search?q=sodium+chlorite&spell=1&ie=utf8&site=default_collection&client=_en&proxystylesheet=_en&output=xml_no_dtd&access=p&lr=lang_en

This document is property of the Water Reference Center Foundation. It is strictly forbidden to copy this document or to cede it to a third party without prior written permission.

4 Action Plan plus grid of responsibilities

What	Who	Deadline	Other
Documentation from WRC - MMS	WRC	19-~~nov~~Nov-12	
Legal Requirements in Uganda	Mr Grace	19-~~nov~~Nov-12	
Actual testing of water purificator with XXX in Uganda	WRC	19-~~nov~~Nov-12	
Describe protocol of actual pilot case (chapter 7)	WRC	20-~~nov~~Nov-12	
Approval from URCS Board	Mr Grace	30-~~nov~~Nov-12	
Execution	WRC	10 to 20-Dec-12	
Roll out after Pilot Case	To be described later		

5 Pilot case

1. Who? see "involved parties"
2. Where? suggested by USG ~~dr~~ ~~XXZ~~Dr. B. Baguma, in ongoing current water projects ——————to reduce costs and secure contingency
3. When? Dec 2012
4. Duration? 1 week
5. Equipment/HR
    a. Field clinic in malaria infested area, preferably with blood testing facilities
    b. 100 Patients (IFRC representative number of treated patients?)
    c. Blood testing equipment, if not in a.
        i. 8 Microscope with testing for 100 patients
        ii. Clinical laboratory
    d. Doctor: 1
    e. Transport + lunch (HOTAC) for XXX staff
    f. NaClO2 + water/juice
    ~~f.~~g. Other medication?
6. Documenting (writing and audiovisual)

This document is property of the Water Reference Center Foundation. It is strictly forbidden to copy this document or to cede it to a third party without prior written permission.

7. Estimated budget: in function of designated area of testing: to be confirmed

This document is property of the Water Reference Center Foundation. It is strictly forbidden to copy this document or to cede it to a third party without prior written permission.

6 Protocol of Testing/effectiveness of side effects

We will be working with 2 test groups. The purpose for doing this is …

1. Define patient groups, confirm malaria infection by 1st blood testing: all patients.
   Confirmation to be done by medical doctor.
2. 1st Treatment, 18 activated drops in 200 ml water (or juice): all patients.
3. 2nd Treatment after 1 hour, 18 activated drops in 200 ml water (or juice): only group 1.
4. 2nd blood testing, after 24 hours from 1st blood testing: all patients.
   Confirmation of the results to be done by medical doctor.

7 Communications

The Project Manager will take the lead role in ensuring effective communications on this project. The communication requirements are documented in the Communications Matrix below. The Communications Matrix will be used as the guide for what information to communicate, who is doing the communication, when to communicate it, and to whom to communicate.

Communication Type	Description	Frequency	Format	Participants/ Distribution	Deliverable	Owner
Daily Status Report	Email summary of project status	Daily	Email	Project Sponsor, Team and Stakeholders	Status Report	Project Manager
Daily Project Team Meeting	Meeting to review action register and status	Daily	In Person	Project Team	Updated Action Register	Project Manager

This document is property of the Water Reference Center Foundation. It is strictly forbidden to copy this document or to cede it to a third party without prior written permission.

8 Output: ownership and rolling out

1. Drafting of final report with audiovisual components
2. Communication and sharing of report
    a. with all involved parties:
        i. URCS represented by xxx
        ii. WRC represented by Klaas Proesmans
        iii. External consultant: Leo ???
    b. To what extent is purpose and output 3.4 being met
3. Agreement of action to be taken
4. Closing date: all agree on date of ??/??/201?

9 Legal support: terms of engagement

Project Manager en Involved Parties Acceptance

Approved by

1. URCS represented by _____
2. WRC represented by _____
3. External consultant, _____

This document is property of the Water Reference Center Foundation. It is strictly forbidden to copy this document or to cede it to a third party without prior written permission.

	SEX	AGE	VILLAGE	PARISH	SUBCOUNTY
	F	8 mth	KIBINGA	IRONGO	IRONGO
	F	29	BUSALA	BULONGO	BULONGO
HARRIET	F	37	KIYUNGA	LUUKA T/C	LUUKA T/C
ANGELI	F	1 mth	KIMANTO	BUDONDO	BUKANGA
EPH	m	32	KIMANTO	"	"
	F	29	KIMUNGA	KIYUNGA	LUUKA T/C
NJITA	F	2	"	"	"
CENT	m.	65	LW[illegible]A WARD	LWANDA	"
INA	F	72	BU[illegible]	NABUBYA	BUKANGA
	m	17	K[illegible]O	KIYUNGA	LUUKA T/C
VE	F			"	"

PATIENT INFORMATION SHEET

WATER REFERENCE CENTER

Name: [illegible]

Date: 2012, December 12

Gender: Male ☑ Female ☐

Age: [illegible]

Telephone: —

Place of Birth: [illegible]

Result blood test: Malaria negative ☑ Malaria positive ☐

Malaria type: _____

Malaria since: _____

Symptoms: Bad cold fever, Backache, Headache, Dizziness

Is he/she past undergone treatment: Still Medications

Other illness besides Malaria: Leg

Symptoms: Bumps on skin (UTI)

Examined by Dr: V. Ismail Signature: [signature]

Treatment with purified water

Amount of drugs: _____ Time: _____

Other: _____

Follow up

Date: 2012, December _____

Reaction after taking WRC purified water:

How do you feel now?

No Reaction	☐	Good / strong	☐
Vomiting	☐	Energetic	☐
Diarrhea	☐	Normal	☐
Headache	☐	Weak	☐

Other: _____

Result blood test: Malaria negative ☐ Malaria positive ☐ Action taken: _____

Examined by Dr: _____ Signature: _____

File number: 10

PATIENT INFORMATION SHEET

UGANDA RED CROSS SOCIETY

WATER REFERENCE CENTER

Name: KISAKYE ISAAC Date: 2012, December 12

Gender: Male ☑ Female ☐

Age: 6-years Telephone: —

Place of Birth KASOZI = Buhonago

Result blood test: Malaria negative ☐ Malaria positive ☑

Malaria type: _____

Malaria since : 1/12

Symptoms: fevers

In the past undergone treatment: _____

Other illness besides Malaria: ~~Pus ear discha "pos"~~

Symptoms: Pus Ear discharge

Examined by Dr. Kabwen. f Signature: _____

Treatment with purified water:

Amount of drops: _____ Time: _____

Other: _____

Follow up

Date: 2012, December _____

Reaction after taking NaClO2 purified water:

No Reaction	☐
Vomiting	☐
Diarrhea	☐
Headache	☐

How do you feel now?

Good - strong	☐
Energetic	☐
Normal	☐
Weak	☐

Other: _____

Result blood test: Malaria negative ☐ Malaria positive ☐ Action taken: _____

Examined by Dr. _____ Signature: _____

Version 1.0
10/12/2012

File number: 04

This document is property of the Water ...

PATIENT INFORMATION SHEET

WATER REFERENCE CENTER

me: [illegible] SAJJA

nder: Male ☑ Female ☐ Date: 2012, December 12

e: 2 Mp

ace of Birth Kiruju - Mbarara

Telephone:

sult blood test:

Malaria negative ☐ Malaria positive ☑

laria since : 3/12

Malaria type:

nptoms: Fever, Abdominal pain

the past undergone treatment: Self medication.

ner illness besides Malaria:

nptoms:

amined by Dr. [illegible] Signature:

---

eatment with purified water:

nount of drops: _____ Time: _____

ther: _____

---

ollow up

Date: 2012, December _____

eaction after taking NaClO2 purified water:

How do you feel now?

No Reaction	☐	Good - strong	☐
Vomiting	☐	Energetic	☐
Diarrhea	☐	Normal	☐
Headache	☐	Weak	☐

Other: _____

Result blood test: Malaria negative ☐ Malaria positive ☐ Action taken: _____

Examined by Dr. _____ Signature: _____

File number: 37

Version 1.0
10/12/2012

PATIENT INFORMATION SHEET

me: KISAKYE ISAAC Date: 2012, December

nder: Male ☑ Female ☐

e: 6 years Telephone: —

ce of Birth KASOZI — Rukungiro

ult blood test: Malaria negative ☐ Malaria positive ☑

Malaria type: _____

aria since : 1/12

nptoms: fevers

he past undergone treatment: _____

er illness besides Malaria: ~~Pus ear discha~~

ptoms: Pus Ear discharge

PATIENT INFORMATION SHEET

WATER REFERENCE CENTER

r: Male ☑ Female ☐ Date: 2012, December 12

of Birth 1/1/1990 – Telephone:

t blood test: Malaria negative ☐ Malaria positive ☑

ria since : 3/12 Malaria type:

ptoms: Fever

e past undergone treatment: Abumalfin

er illness besides Malaria: Self medication.

ptoms:

mined by Dr. Ahmed Signature:

atment with purified water:

ount of drops: Time:

ner:

low up

Date: 2012, December 13

action after taking NaClO2 purified water:

		How do you feel now?	
No Reaction	☐	Good - strong	☐
Vomiting	☐	Energetic	☐
Diarrhea	☐	Normal	☐
Headache	☐	Weak	☐

Other:

sult blood test: Malaria negative ☑ Malaria positive ☐ Action taken:

camined by Dr. Signature:

Version 1.0
10/12/2012

File number: 35

PATIENT INFORMATION SHEET

WATER REFERENCE CENTER

er: Male ☑ Female ☐ Date: 2012, December 12

2 Mr

of Birth 14/10/10 – [illegible] Telephone:

lt blood test: Malaria negative ☐ Malaria positive ☑

ria since : 3/12 Malaria type:

ptoms: fever / Abdominal pain

e past undergone treatment: Self medication.

er illness besides Malaria:

ptoms:

mined by Dr. [illegible] Signature:

atment with purified water:

ount of drops: Time:

ner:

llow up

Date: 2012, December 13

action after taking NaClO2 purified water:

How do you feel now?

No Reaction	☐	Good - strong	☐
Vomiting	☐	Energetic	☐
Diarrhea	☐	Normal	☐
Headache	☐	Weak	☐

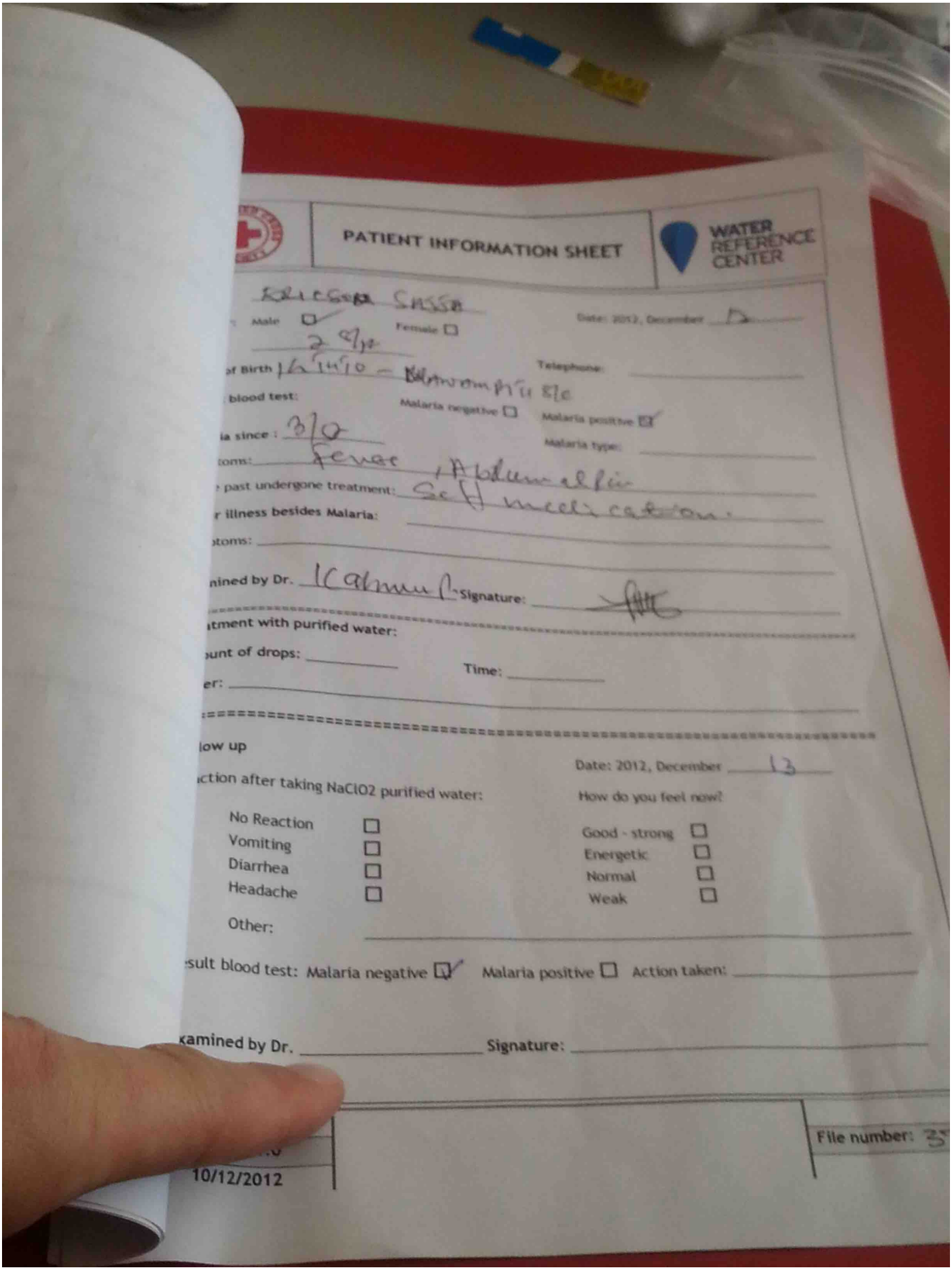
Other:

sult blood test: Malaria negative ☑ Malaria positive ☐ Action taken:

ined by Dr. Signature:

1.0

File number: 37



PATIENT INFORMATION SHEET

WATER REFERENCE CENTER

Male ☐ Female ☐ Date: 2012, December 5

Telephone:

Malaria negative ☐ Malaria positive ☐

Malaria type:

Fever, Abdominal

Self medication.

Signature:

Date: 2012, December 13

How do you feel now?

No Reaction	☐	Good - strong	☐
Vomiting	☐	Energetic	☐
Diarrhea	☐	Normal	☐
Headache	☐	Weak	☐

Malaria negative ☑ Malaria positive ☐

10/12/2012

File number:

PATIENT INFORMATION SHEET

WATER REFERENCE CENTER

Date: 2012, December 12

Name: [illegible] SAGGA

Gender: Male ☑ Female ☐ Telephone:

Age: 2 y/m

Place of Birth Ethiopia - [illegible]

Result blood test: Malaria negative ☐ Malaria positive ☑

Malaria since: 3/0 Malaria type:

Symptoms: Fever, Abdominal pain

Have past undergone treatment: Self medication.

Other illness besides Malaria:

Symptoms:

Examined by Dr. Ibrahim Signature:

Treatment with purified water:

Amount of drops: _____ Time: _____

Other:

Follow up Date: 2012, December 13

Reaction after taking NaClO2 purified water:

No Reaction	☐	Good - strong	☐
Vomiting	☐	Energetic	☐
Diarrhea	☐	Normal	☐
Headache	☐	Weak	☐

How do you feel now?

Other:

Result blood test: Malaria negative ☑ Malaria positive ☐ Action taken:

Examined by Dr. Kyowakutaz Signature:

Version 1.0
10/12/2012

7